



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,971	04/06/2001	Olli Immonen	367.39437X00	8278

20457 7590 05/13/2005

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

DAVIS, ZACHARY A

ART UNIT PAPER NUMBER

2137

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/720,971

Applicant(s)

IMMONEN, OLLI

Examiner

Zachary A. Davis

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-40 and 42-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-40 and 42-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. An amendment was received on 09 February 2005. Claims 1-11, 14-17, 19, 20, 22-40, and 42 have been amended. Claims 13 and 41 have been canceled. New Claims 46-68 have been added. Claims 1-12, 14-40, and 43-68 are currently pending in the present application.
2. It is noted that the current listing of claims includes two claims numbered 29. As the first of these claims is identical to Claim 28, it has been disregarded, and only the second, unique, Claim 29 has been considered.

Drawings

3. The Examiner acknowledges receipt of drawing amendments received 09 February 2005 in compliance with 37 CFR 1.121(d).
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: LCD Driver 13 (see Figure 2). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the

filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:

The specification appears to contain several minor grammatical and typographical errors. Note that all page references are to the substitute specification received 16 August 2004. For example, on page 3, line 9, it appears that in the phrase "The base verifies and decrypting the RN2", "decrypting" is intended to read "decrypts"; on page 5, lines 3-5, the phrase "and may be re-used in another secure connection" does not appear to have a subject"; on page 20, line 6, it appears that the reference to "encrypted response 80" is intended to refer to "encrypted response 65"; on page 21, line 25, it appears that "cryptation algorithm" is intended to read "encryption algorithm"; on page 25, line 21, it appears that "send" is intended to read "sent"; and on page 26, line 4, it appears that "Both ends has to send" is intended to read "Both ends have to send".

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. See page 28, line 14. Applicant is required to

Art Unit: 2137

delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Appropriate correction is required. The above is not an exhaustive list of errors, and Applicant's cooperation is requested in correcting any errors of which Applicant may become aware in the specification.

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Independent claims 1, 5, and 19 each recite the limitation "memory means including a separate unit". Although the specification provides proper antecedent basis for a separate unit including a memory means, there is no description or indication that a memory means, which is itself within a wireless communication device, has within it a separate unit.

Claim Objections

7. Claims 5, 24, and 47 are objected to because of the following informalities:

Claim 5 recites "at least one pre-defined algorithm(s)" in line 10 of the claim. It appears that "algorithm(s)" is intended to read "algorithm".

Claim 24 recites the limitation "at least one a master secret code and at least one signature" in lines 17-18 of the claim. It appears that this is intended to read "at least one of a master secret code and at least one signature".

Claim 47 recites "A wireless communication apparatus according to claim 46"; however, Claim 46 is directed to a wireless communication device.

Appropriate correction is required.

8. Applicant is advised that should claim 65 be found allowable, claim 66 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-12, 14, 19-21, 25-40, and 45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 1, 5, and 19 each recite the limitation "memory means including a separate unit". Although

Art Unit: 2137

the specification does describe a wireless communication device connected to a separate unit that has within it a memory means, the specification does not provide a description or any indication that a memory means within a wireless communication device also includes a separate unit. It is noted that, for purposes of interpreting the prior art, the claims have been considered to include a separate unit including a memory means, as supported by the specification.

11. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, Claim 23 is a single means claim. Single means claims are subject to an undue breadth rejection. See MPEP § 2164.08(a).

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 3, 7-10, 14-18, 22, 23, 25, 27-35, 37-40, 42-44, and 46-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 25 recite the limitation "said request". It is unclear whether this refers to the request of independent Claim 1, or to the requests recited in each of Claims 3 and 25. This renders the claims indefinite.

Claims 7, 9, and 28-31 each recite the limitation "the master secret code". However, independent Claim 5 recites the limitation "a master secret code" in line 9 of the claim, and also recites "at least one master secret code" in lines 15-16. Therefore, it is unclear to which master secret code the dependent claims refer, which renders the claims indefinite.

Similarly, Claims 8, 10, and 32-35 each recite the limitation "the signature"; however, independent Claim 5 recites the limitations "a signature" in line 11 and "at least one signature" in line 16. Therefore, it is unclear to which signature the dependent claims refer, which renders the claims indefinite.

Claim 14 recites the limitation "without a smart card"; however, the independent claims include a "separate unit", i.e. a smart card, and the specification makes it clear that a separate unit is required (see page 4, lines 12-24, and page 19, lines 4-13, of the substitute specification). This contradiction renders the claim indefinite.

Claim 15 does not use either of the terms "comprising" or "consisting of". Therefore, it is not possible to determine whether the claim is of open or closed construction, which in turn makes it impossible to determine the scope of the claim.

Claim 22 recites the limitation "the master secret key" in lines 15-16 of the claim. There is insufficient antecedent basis for this limitation in the claim, although for purposes of interpreting the prior art it has been assumed to refer to the "master secret code".

Claim 23 recites the limitation "a wireless application protocol comprising contact means" in line 3. It is unclear how an intangible concept such as a protocol could

comprise physical elements such as a contact means, which renders the claim indefinite. Further, there is insufficient antecedent basis in the claim for the limitation "the master secret key" in lines 7-8, although for purposes of interpreting the prior art it has been assumed to refer to the "master secret code".

Claim 46 recites the limitation "said at least one master secret code" in line 15 of the claim. There is insufficient antecedent basis for this limitation in the claims.

Claims 48-51 each recite the limitation "the master secret code". However, independent Claim 46 recites the limitation "a master secret code" in line 10 of the claim, and also recites "at least one master secret code" in line 15. Therefore, it is unclear to which master secret code the dependent claims refer, which renders the claims indefinite.

Similarly, Claims 52-55 each recite the limitation "the signature"; however, independent Claim 46 recites the limitations "a signature" in line 11 and "at least one signature" in lines 16-17. Therefore, it is unclear to which signature the dependent claims refer, which renders the claims indefinite.

Claims not specifically referred to above are rejected due to their dependence on a rejected base claim.

14. Claims 1-12, 14, 19-22, 24-40, and 45 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element is a contact means for the wireless communication apparatus, as described on

page 4, lines 16-20, and page 19, lines 6-8, of the substitute specification, and also as claimed in claims 15, 23, and 46.

Response to Arguments

15. Applicant's arguments filed 16 August 2004 have been fully considered but they are not persuasive.

Claims 1, 3-12, 14-19, 21-24, 27-40, and 42-44 were rejected under 35 U.S.C. 103(a) as unpatentable over Ichikawa, PCT Publication WO97/24831, in view of Anvret et al, European Publication EP 0538216. Claims 2, 20, 25, 26, and 45 were rejected under 35 U.S.C. 103(a) as unpatentable over Ichikawa in view of Anvret, and further in view of Weiss, US Patent 5485519.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Specifically, Applicant argues that none of the cited references teach a combination of a wireless communication apparatus that generates a master secret code used to initially secure connection between the wireless apparatus and a data communication apparatus, and thereafter stores the master secret code to be used at a later time. Applicant further argues that Ichikawa specifically does not disclose storing

Art Unit: 2137

of the master secret code; however, the Examiner believes that Ichikawa does indeed teach storing of a master secret code (see page 7, line 3-page 8, line 4, as cited in the previous Office action). Applicant additionally argues that Weiss does not describe a master secret code as set forth in the claims. However, Weiss was not relied upon to teach the specific limitation of a master secret code; rather, the combination of Ichikawa and Anvret, as described in reference to the independent claims, was used to teach that limitation (see Ichikawa, page 4, lines 10-15; see also Anvret, column 6, line 28-column 7, line 13). Weiss was instead used to teach the additionally claimed limitation of Claims 2 and 20, namely storing a key only for a predetermined period of time. Applicant concedes that Weiss does teach the removal of a private key after a predetermined period of time.

Therefore, for the reasons detailed above, the Examiner maintains the rejections as set forth below.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1, 3-12, 14-19, 21-24, 27-40, 42-44, and 46-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa, PCT Publication WO97/24831, in view of Anvret et al, European Publication EP 0538216.

In reference to Claim 1, Ichikawa discloses a method that includes connecting a wireless communication apparatus to a separate unit; accessing a wireless communication network (page 2, line 16-page 3, line 12); transmitting a request, which includes information on which of at least one algorithm the wireless apparatus supports, from the wireless apparatus to a data communication apparatus (page 10, line 14-page 11, line 11); the data communication apparatus choosing an algorithm and transmitting a message, which includes information about the chosen algorithm, to the wireless apparatus (page 9, lines 13-23); the wireless apparatus generating a master secret code (page 4, lines 10-12) and calculating a signature based on the chosen algorithm and the master secret code (page 4, lines 12-15); and saving the master secret code on a memory means of the separate unit and in the data communication apparatus (page 7, line 3-page 8, line 4). However, Ichikawa does not explicitly disclose the use of public and private keys.

Anvret discloses a method that includes the use of public and private keys in message communication (column 6, lines 1-11 and 47-48); transmitting a message, which includes the public key, to a wireless communication apparatus (column 6, lines 39-41); transmitting a response, which includes a calculated signature, to a data communication apparatus (column 6, lines 28-41); the data communication apparatus calculating a master secret code based on a chosen algorithm, a received signature,

and the private key; and establishing a secure connection between the wireless apparatus and the data communication apparatus (column 6, line 28-column 7, line 13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ichikawa's method of generating encryption keys with Anvret's method of identification and exchange of encryption keys, in order to promote the usage of smart cards that enable strong algorithms and enhanced security (see Anvret, column 1, lines 23-25).

In reference to Claim 3, Anvret further discloses re-establishing a connection by transmitting a request, which includes a calculated signature based on the algorithm, public key, and stored secret, from the wireless apparatus to the data communication apparatus (column 6, lines 1-11, 39-41, and 47-48). Anvret additionally discloses that the data communication apparatus calculates the master secret code based on the algorithm, signature, and private key, and establishes a secure connection to the wireless apparatus (column 6, line 28-column 7, line 13).

In reference to Claim 4 and 27, Ichikawa further discloses that the separate unit is a smart card (page 2, lines 16-25).

Claims 5, 15, 19, 22-24, and 46 each recite limitations recited in, and are substantially equivalent to, Claim 1. The claims are therefore rejected by a similar rationale.

In reference to Claim 6, Anvret further discloses a wireless communication apparatus having an exchangeable memory means (column 2, lines 37-41). Ichikawa

further discloses an exchangeable means (namely the smart card of page 2, lines 16-25).

In reference to Claims 7-10, 28-35, 48, 49, and 52-55, Ichikawa further discloses that the master secret code and signature are each stored and generated on the separate unit (Figure 1; page 4, lines 2-15).

In reference to Claims 11, 18, 21, 36-40, 43, 44, and 56-64, Ichikawa further discloses that the separate unit is a smart card (page 2, lines 16-25).

In reference to Claims 12 and 65-68, Ichikawa further discloses that the separate unit is a subscriber identity module (page 2, lines 16-25).

In reference to Claim 14, Ichikawa further discloses an apparatus without a smart card (page 2, lines 16-25).

In reference to Claim 16, Ichikawa further discloses encryption means for encrypting the master secret (page 11, line 19-page 12, line 2).

In reference to Claims 17 and 42, Ichikawa further discloses a secure database including at least one master code or signature (page 4, lines 12-15; Figure 5; page 7, line 9-page 8, line 10; page 11, line 19-page 12, line 2).

Claim 47 corresponds substantially to Claim 3, and is rejected by a similar rationale.

In reference to Claims 50 and 51, Ichikawa further discloses a processor generating the master secret code (page 4, lines 2-15).

18. Claims 2, 20, 25, 26, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Anvret as applied to claims 1 and 19 above, and further in view of Weiss, US Patent 5845519.

In reference to Claims 2 and 20, Ichikawa as modified discloses everything as applied to Claims 1 and 19 above. However, neither Ichikawa nor Anvret explicitly discloses saving the master secret for a predefined time. Weiss discloses saving a master key for a predetermined time (column 12, lines 40-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ichikawa and Anvret's method of encryption key exchange with Weiss' teaching of saving keys for a predefined time, in order to prevent an unauthorized user from compromising the key (see Weiss, column 12, lines 40-61).

Claim 26 corresponds substantially to Claim 3, and is rejected by a similar rationale.

In reference to Claims 26 and 45, Ichikawa further discloses that the separate unit is a smart card (page 2, lines 16-25).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary A. Davis whose telephone number is (571) 272-3870. The examiner can normally be reached on weekdays 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7AD
zad



ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER